

What is claimed is:

1. A rotor of a line start permanent magnet motor comprising:

a core provided with an axial hole for inserting an shaft and a plurality of
5 penetrated magnet coupling holes formed at a periphery of the axial hole;
permanent magnets respectively coupled to the magnet coupling holes of
the core;

a third end ring provided with magnet paths for respectively passing the
permanent magnets and coupled to one side surface of the core;

10 a fourth end ring having the same appearance as the third end ring and
coupled to another side surface of the core to be connected with the third end ring;

a magnet supporting plate positioned between one side surface of the
core and the fourth end ring for preventing the permanent magnets from being
separated; and

15 a fixing member inserted into the magnet paths of the third end ring for
preventing the permanent magnets from being separated.

2. The rotor of claim 1, wherein the core is a stacked body that a
plurality of circular thin plates having a certain thickness are stacked.

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3. The rotor of claim 1, wherein inner diameters of the third end ring
and the fourth end ring are formed to be smaller than a diameter of an inner
tangential circle connecting inner tangent lines of the permanent magnets.

25 4. The rotor of claim 1, wherein outer diameters of the third end ring

and the fourth end ring are formed to be larger than a diameter of an outer tangential circle connecting inner tangent lines of the permanent magnets.

5 5. The rotor of claim 1, wherein the magnet paths of the third end ring are formed as an inclined shape that a hole positioned at the core side is small and a hole positioned at the opposite side is large, and the fixing member inserted into the magnet paths is formed as a wedge shape which is the same as a shape of the magnet paths.

10 6. The rotor of claim 1, wherein a depth of the magnet paths of the third end ring and a length of the fixing member are equal.

 7. The rotor of claim 1, wherein the fixing member is formed of the same material as the third and fourth end rings.

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 8. The rotor of claim 1, wherein the permanent magnets are pressed-inserted into the magnet coupling holes of the core and thereby coupled.

 9. The rotor of claim 1, wherein a slit having a constant width
20 and length for preventing a magnet flux leakage of the permanent magnets is formed at the cylindrical plate in accordance with the permanent magnets.

 10. A manufacturing method of a rotor of a line start permanent magnet motor comprising the steps of:
25 stacking a plurality of thin plates having a certain shape and thus

manufacturing a core;

positioning a magnet supporting plate to one side surface of the core;

forming third and fourth end rings having the same appearance by a die casting at both side surfaces of the core where the magnet supporting plate is

5 positioned;

inserting a plurality of permanent magnets to the core through the third end ring and thereby fixing; and

respectively fixed-coupling a fixing member to the third end ring in order to prevent the permanent magnets from being separated.

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